

16x DVD±R/RW Writer

USB 2.0 External Drive

12 in 1 card reader compatibility

User's Manual

**CLASS 1 LASER PRODUCT
APPAREIL A LASER DE CLASSE 1
LASER KLASSE 1
LUOKAN 1 LASERLAITE
PRODUIT LASER
CATEGORIE 1**

CAUTION

CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

VORSICHT

KLASSE 3B SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN GEOFFNET.
NICHT IN DEN STRAHL SEHEN.

ATTENTION

RADIATION DU FAISCEAU LASER VISIBLES ET INVISIBLES DE CLASSE 3B
EN CAS D'OUVERTURE. EVITER TOUTE EXPOSITION AUX RAYONS.

Copyright Statement

It is a criminal offence, under applicable copyright laws, to make unauthorised copies of copyright-protected material, including computer programs, films, broadcasts and sound recordings. This equipment should not be used for such purposes.

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC Warning Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FOR EUROPE



“The drive is in conformity with the EMC directive and low-voltage directive.”

Table of Contents

INTRODUCTION	1
SYSTEM REQUIREMENTS	2
PACKAGE CONTENTS	2
INSTALLATION	3
HARDWARE INSTALLATION	3
DRIVER INSTALLATION	4
SOFTWARE PACKAGE	5
DVD REGION CODING	6
OPERATION & CONNECTION	8
FRONT PANEL	8
REAR VIEW	10
TECHNICAL DATA	11
APPENDIX	14

INTRODUCTION

Accompanying the new DVD storage technology, we are honored to present you a compact and multiformat external drive of USB 2.0 interface: 16X DVD±R/RW Writer.

This 16X DVD±R/RW Writer frees up precious bay space and offers more backup choices other than acting as a CD-R/RW drive and as a DVD-ROM reader. It supports dual formats of DVD+R/RW and DVD-R/RW enabling excellent compatibility, simple, quick recording of both CD/DVD formats, huge capacity storage, and theater-quality playback.

The bundled package of mastering software offers the creation fun of video, photos, and music editing. You can either record up to 8.5GB, 4 hours of TV shows or movies into high-quality DVD video, or author your own DVD movies – from capture to editing and burning, which both are playable in most DVD players and DVD-ROM drives.

And that isn't all, the built-in 12 in 1 card reader which offers read-write ability of 12 memory card types simplifies the process of exchanging data between Digital cameras, camcorders, voice recorders, PDAs, MP3s... and your computer. You can view, archive, or write the files/photos/video/music of the memory card directly from the drive and enjoy the fascinating digital/DVD entertainment on your desktop.

Here are some important features of this drive:

- USB 2.0 interface, easy to connect to USB 2.0 port in PC
- Four-slot integration of the card reader works with CompactFlash (CF) Type I, II, MicroDrive, Memory Stick (MS), MS Duo, MS Pro, MS Pro Duo, MultiMediaCard (MMC), mini MMC, Secure Digital (SD), mini SD, and SmartMedia (SM)
- Convenient connection with A-Type USB Extension Port on the front panel

- 16X DVD±R Write, 4X DVD+R Double Layer Write, 8X DVD+RW, 4X DVD-RW Rewrite speed, 16X DVD-ROM Read speed
- 48X CD-R, 24X CD-RW Write/Rewrite speed, 48X CD-ROM Read speed
- Adopts “MTKSuperLink” to prevent Buffer Underrun errors of CD & DVD writing
- Supports writing modes of TAO, DAO, SAO and packet writing
- Supports MultiRead function
- Serves as RPC-2 DVD-ROM Drive
- Smooth DVD playback of high resolution
- Compatible with most existing DVD-ROM drives and DVD video players
- Bundled with an extensive software package

System Requirements

For IBM compatible PCs, the system requirements recommended are as follows:

- Pentium III, 800MHz or above with at least 256MB of memory
- Minimum 2GB free Hard Disk space
- Operating system: Microsoft Windows 98SE/ME/2000/XP
- USB 2.0 PCI host card (If there's no USB 2.0 built-in port on board.)

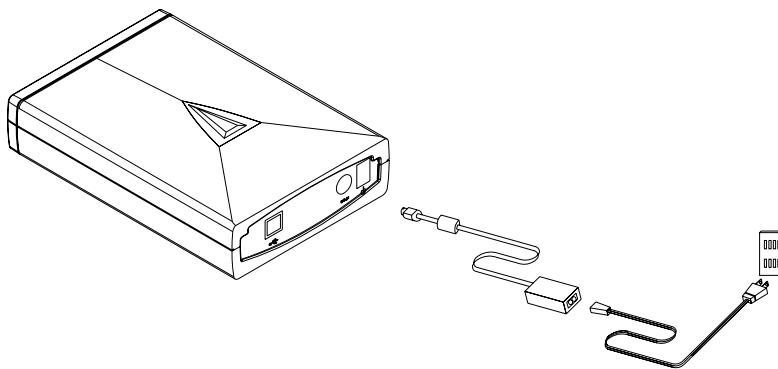
Package Contents

- USB 2.0 external DVD±R/RW Writer
- Power adapter
- AC power cable
- USB 2.0 cable
- Application software disc
- Quick installation Guide

INSTALLATION

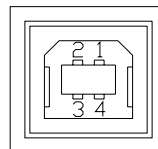
Hardware Installation

1. Connect the power adapter and the AC power cord to the drive.



2. Attach the USB 2.0 cable to the drive.

USB Connector



3. Attach the other end of the USB 2.0 cable to the USB port in your computer. The drive is now ready to use.

☞ *If you are installing a USB 2.0 drive, your computer must have a USB 2.0 port to achieve top speed. You may experience slower USB 2.0 drive performance if connected to USB 1.1.*

Note:

- ◆ Be sure to use the USB 2.0 cable packed with the drive.
- ◆ Never plug or unplug in any other USB device while the drive is transferring data. It's likely to loss data.

- ◆ It's advisable not to disconnect the drive or unplug the power to the drive while a CD is inserted.

Driver Installation

Windows Environment

This DVD±R/RW Writer is a PnP (Plug and Play) device, and Windows ME/2000/XP can **automatically detect** the drive and load the appropriate driver. For the users who run **Windows 98SE** please install the provided driver in the disc and then restart the computer.

Card Reader

Please install the driver in the DVD playback disc to operate the read-write ability of 12 memory card types. After the driver installation, 4 extra icons with different card type indicated will show in Device Manager/My computer. And then you can use each slot of the card reader for file archiving / recording.

Software Package

Burning Software

The bundled recording software gives you the complete solution for making audio/data CD/DVDs. With the user-friendly interface, it guides you through the creation and backup of files/photos/video/music from your computer to a recordable disc. Combining with the card reader capabilities, no matter you are a novice or an experienced user; you can enrich your digital life with this best recording tool.

DVD Playback Software

The DVD playback software comes with leading video and audio technologies to deliver the highest sound and visual effect possible on the PC. Meanwhile, it offers feature-rich navigation controls for an interactive and tailored DVD movie viewing experience. You can enjoy the wide range of educational and entertaining DVD titles with theater quality.

☞ ***For further details, please refer to the manual in the software disc.***

Installation Under Windows Environment

1. Insert the application CD and the installation program will run automatically. Then follow the on-screen procedures.
- Or
2. Run:\setup.exe on the application CD.

DVD Region Coding

Region Playback Control Management

All DVD Video Playback systems have “Region Playback Control” management (RPC), which is required by Hollywood movie industry and defined by DVD Forum. This includes DVD-Video players and PC systems with DVD-Video capability. You can only play DVD-Video discs with the same region code as your DVD-Video Playback system.

As for DVD-ROM drives, one kind of the DVD-Video Playback system, there are 2 types:

RPC Phase 1 (as RPC1): RPC1 drives do not have built-in hardware support for region management. DVD-ROM drives of this kind don't play a part in controlling the playback region. It solely depends on the decoder.

RPC Phase 2 (as RPC2): RPC2 drives maintain the region change count information in hardware, and in general, the region of such drives can be changed up to 5 times by the end users under some software decoder (e.g. PowerDVD).

And referring to the region codes, there are 6 regions worldwide, and normally, there is a region code mark on the package of DVD titles. :

Region **1**: Canada, US

Region **2**: Japan, Europe, South Africa, and Middle East (including Egypt)

Region **3**: Southeast Asia and East Asia (including Hong Kong)

Region **4**: Australia, New Zealand, Pacific Islands, Central America, Mexico, South America, and the Caribbean

Region **5**: Eastern Europe, Indian subcontinent, Africa, North Korea, and Mongolia

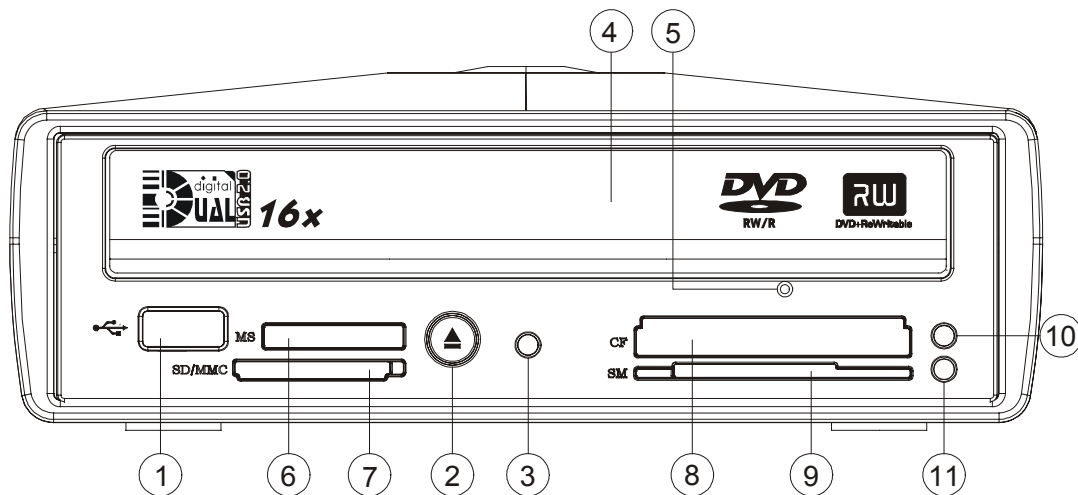
Region **6**: China

About This Drive

This DVD±R/RW Writer is also a RPC2 DVD-ROM drive and according to DVD-Forum, PC chip must be designed into DVD-ROM drives to record how many times a user has changed the region code. The first region code will depend on the DVD title you play and you are allowed to modify the region code 5 times (including the initial one). After the fifth alteration, the region code will be locked and only those DVD titles of the same region code could be played afterwards, so set the code carefully.

OPERATION & CONNECTION

Front Panel



1. A-Type USB Extension Port

This USB port is Plug-and-Play Ready. Just plug your USB device and the computer will detect automatically.

2. Close/Eject Button

This button opens and closes the disc tray. If the tray is closed, pressing the button will eject it.

3. Led Indicator (DVD-Dual Drive)

While the tray goes in/out, the LED flashes **green** and it's off when the drive is ready.

The LED flashes "**green**" while verifying or reading a disc and flashes "**amber**" while writing discs.

4. Disc Tray

Place the disc in the tray here, and then press the Close/Eject button or lightly push the tray to close it.

5. Emergency Eject Hole

When the Close/Eject button doesn't work properly and the disc tray can't be opened, you can insert a paper clip or a small rod into this hole for manual ejection. Please make sure to power off the system before you do that.

6. Slot for Memory Stick (MS)/MS Duo/MS Pro/MS Pro Duo

7. Slot for Secure Digital (SD)/Mini SD/MultiMediaCard (MMC) /Mini MMC

8. Slot for Compact Flash (CF) Type I, II/MicroDrive

9. Slot for Smart Media (SM)

10. LED Indicator (Card Reader)

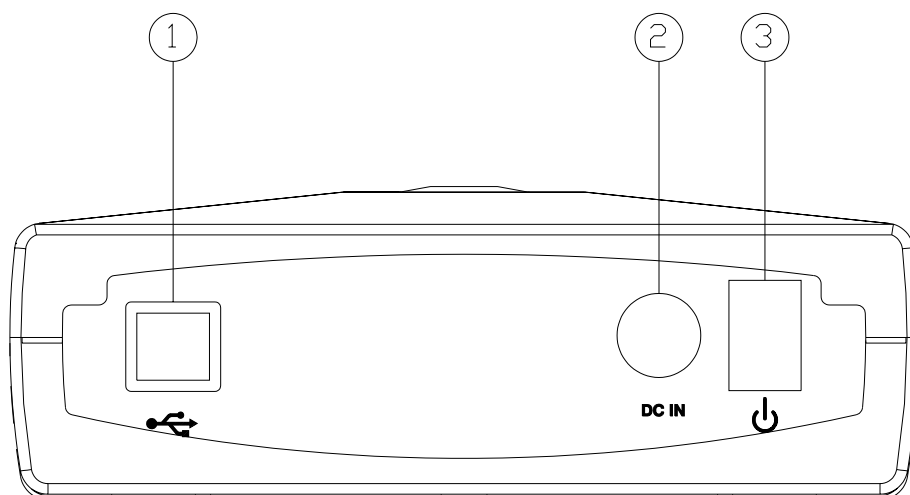
When the data of memory cards is being accessed, the LED flashes **red**.

11. LED Indicator (Card Reader)

Once the USB cable is correctly connected, this LED will light **green**, which means the card slots are ready to use.

Note: *The design of front panel is subject to change without notice.*

Rear View



- 1. USB Connector**
- 2. D.C. Power Connector**
- 3. Power (On/Off) Switch**

TECHNICAL DATA

Interface	USB 2.0
Disc Data Capacity	DVD+/-R, DVD+/-RW: Single layer 4.7GB Double layer 8.5GB CD-R/RW: 74min/650MB, 80min/700MB
Media supported for Writing	DVD+R, DVD+R Double Layer, DVD-R, DVD+RW, DVD-RW, CD-R, and CD-RW
Writing Formats	DVD+/-R, DVD+/-RW, DVD+R DL, DVD-ROM, DVD-Video CD-DA, CD-ROM, CD-ROM XA, CD-Extra, CD-I, Mixed-Mode CD, Video CD, Photo CD, CD-Text, Bootable CD, CD-R, CD-RW, Multi-Session
Writing modes	TAO (Track at once), DAO (Disc At Once), SAO (Session at once), Multi-session, Packet Writing Multi-track Reservation
Writing Speed	DVD+R: 16X, 12X, 8X, 6X, 4X, 2.4X DVD+R DL: 4X DVD-R: 16X, 12X, 8X, 6X, 4X, 2X DVD+RW: 8X, 6X, 4X, 2.4X DVD-RW: 4X, 2X, 1X CD-R: 48X, 40X, 32X, 24X, 16X CD-RW: Low Speed: 4X High Speed: 10X, 4X Ultra Speed: 24X, 16X
Reading Compatibility	CD Audio, CD-Extra, CD-ROM/XA, CD-I, Photo CD, Video CD, CD-Text, DVD-ROM, DVD+/-R, DVD+/-RW

Reading Speed	DVD+/-R: max 8X DVD+R DL: max. 6X DVD+/-RW: max. 8X CD-R: max. 48X, CD-RW: max.32X CD-ROM: max. 48X DVD-ROM: max. 16X
Digital Media	CompactFlash (CF) Type I, II, MicroDrive, Memory Stick (MS), MS Duo, MS Pro, MS Pro Duo, MultiMediaCard (MMC), mini MMC, Secure Digital (SD), mini SD, and SmartMedia (SM)
Data Transfer Rate	
DVD-Dual Drive	CD -- Read CD-ROM/CD-R: 7200KB/sec (up to 48X) CD-RW: 4800KB/sec (up to 32X) CD -- Write CD-R: 7200KB/sec (up to 48X) CD-RW: 3600KB/sec (up to 24X) DVD -- Read DVD-ROM: 21632KB/sec (up to 16X) DVD -- Write DVD+/-R: 21632KB/sec (up to 16X) DVD+R DL: 5408KB/sec (up to 4X) DVD+RW: 10816KB/sec (up to 8X) DVD-RW: 5408KB/sec (up to 4X)
Card Reader	480Mb/s (USB 2.0)
Access time	DVD: 160ms (16X) CD: 130ms (48X)
Data buffer	2MB
Disc loading	Tray (motorized), Dust Sealed
Dimensions	Height 57.2 ± 0.5 mm

	Width	162.7± 0.5 mm
	Depth	237.4 ± 0.8 mm
Weight		2kg
Mounting Method		Horizontal
Power Requirement		input: AC 100~240V, 50/60Hz output: 5V 1.5A, 12V 1.5A
Temperature		Operating 5°C to 45°C Non-operating -20°C to 60°C
Humidity		Operating 8% ~ 80%RH Non-operating 5% ~ 95%RH

APPENDIX

DVD Forum

The DVD Forum is an international organization made up of companies using or manufacturing digital versatile disc (DVD)-related products. The Forum was created in 1995 when ten companies (Hitachi, Matsushita, Mitsubishi, Philips, Pioneer, Sony, Thomson Multimedia, Time Warner, Toshiba Corporation, and Victor) joined for the common purpose of promoting DVD worldwide and establishing standardized formats of each DVD application for the marketplace.

DVD+RW Alliance

The DVD+RW Alliance is a voluntary group of industry-leading personal computing manufacturers, optical storage and electronics manufacturers including Dell, Hewlett-Packard Company, MCC/Verbatim, Philips Electronics, Ricoh Company Ltd., Sony Corporation, Thomson multimedia and Yamaha Corporation. The group seeks to develop and promote a universally compatible, rewritable DVD format to enable true convergence between personal computing and consumer electronics products.

DVD FLLC (Format, Logo, Licensing, Corporation)

DVD Format/Logo Licensing Corp (DVD FLLC) was established in 2000 to handle issuing of the DVD specifications, granting licenses to manufacturers and policing the use of the DVD logos. All manufacturers of hardware, discs and related DVD products must be licensed and first products verified to ensure that all players will play all discs. The correct logos must be used for the appropriate products in the appropriate way.

DVD Formats

DVD Video

Popular format for viewing movies and other visual entertainment with high quality MPEG2 video & digital surround sound. Enables multi-language, multi-subtitling and other advanced user features.

DVD Audio

This audio-only storage format doubles the fidelity of sound effect comparing with a standard CD as well as longer playing times, copy protection and anti-piracy measures...etc.

DVD-ROM (DVD Read Only Memory)

Read-only DVD discs used for storing data and interactive sequences as well as audio and video.

DVD-R (DVD Recordable)

A write-once format used to master DVD Video and DVD-ROM discs. Good for archiving data and recording home movie discs.

DVD-RW (DVD ReWritable)

The DVD Forum's format with a read-write capacity of 4.7GB per side. It can be re-written up to 1000 times. Suitable for backups, DVRs, and movies.

DVD+R (DVD Recordable)

A write-once format. Good for archiving data and recording DVD movies.

DVD+RW (DVD ReWritable)

The DVD+RW Alliance's fast, 1000-times-rewritable format. Excellent for backups, good for movies, real-time video recording & random data burning

DVD-RAM (DVD Random Access Memory)

The DVD Forum's 100,000-times-rewritable format. Suitable for backups and DVRs.

3100552712
Version 1.0
December 2004